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8 DESIGN REQUIREMENTS

8-A DESIGN PRINCIPLES

8-A-1 The quality of design of a community is dependent on the quality of design of the individual subdivisions that are included in it. Good community design requires the coordination of the efforts of each subdivider and developer of land within the County. Therefore, the design of each subdivision shall be prepared in accordance with the principles and recommendations established by the Comprehensive Plan for land use circulation, community facilities and public services, and in accordance with the following general principles:

8-A-1-a The size of lots and blocks and other areas for residential, commercial, industrial, and public uses shall be designed to provide adequate light, air, open space, landscaping, and off-street parking and loading facilities.

8-A-1-b The arrangements of lots and blocks and the street system shall be designed to protect solar access and to make the most advantageous use of topography and natural physical features. Tree masses and large individual trees shall be preserved, wherever possible and when consistent with the provisions of this Ordinance. Any system of sidewalks and roadways and the lot layout shall be designed to take advantage of the visual qualities of the area.

8-A-1-c
(4/18/00)
(6/21/05) The arrangement of parcels in the Agricultural Open-Space Conservation and Forestal Open-Space Conservation Zoning Districts should be consistent with the design concepts listed below. These concepts are intended as guidelines to be used to preserve the rural character of these zoning districts. These design concepts are primarily intended to guide the location of parcels less than six acres in area, as the primary use of these parcels is residential, but they should also be considered for parcels of any size because of the interrelated nature of parcels and uses. Site specific circumstances may not allow application of all concepts, but, to the extent practical, these concepts should be followed when siting proposed parcels:

1. Parcels should not be arranged in a row along public roads;
2. Parcels should not be located as individual “islands” in the middle of larger parcels to avoid hindering the use of a field for agricultural purposes;
3. Parcels should not be located immediately adjacent to property under permanent open space easement;
4. Parcels should not be located so that the most likely house location is on the top of an exposed or prominent ridge or hill;
5. Parcels should be located in or adjacent to wooded areas;
6. Parcel boundaries should follow natural features, fence lines, or hedgerows; and
7. Parcels should be clustered.
8. Parcels should be located to minimize road length and maximize ease of emergency access, particularly in areas of steep slopes, and
9. Large residual tracts should contain areas of steeper slopes and other environmentally sensitive features.

8-B LOTS AND BUILDING AREAS

8-B-1
(7/19/05) The lot area, width, depth, shape and orientation and the minimum building setback lines shall be appropriate for the location of the subdivision, for the type of development and use contemplated, in accordance with the lot arrangement, design and shape, and shall be such that

all lots provide satisfactory and desirable sites for home or buildings, recognizing natural terrain and conforming to this Ordinance. Lots of one acre or less shall not be stacked off of public rights of way, so that the front yards for homes are not located adjacent to the back yards of other homes. All lot sizes shall conform to the Zoning Ordinance in effect in Clarke County at the time of filing of a Preliminary Plat. Lots shall not contain peculiarly shaped elongations, solely to meet lot size or frontage requirements, which would be unusable for normal purposes.

- 8-B-2 Except where otherwise specifically provided for in this Ordinance or the Zoning Ordinance, all lots shall front on a public street, and the side lot lines shall be approximately at right angles, or radial to the street line.
- 8-B-3 Corner lots shall have a width sufficient to conform to required building setback lines and Zoning Ordinance requirements on both streets, and to provide adequate building sites.
- 8-B-4 In the case of lots for residential purposes, the building setback line shall conform to the requirements of the Clarke County Zoning Ordinance, except that the Commission may require a greater setback if the Commission finds that health and/or safety conditions make a greater setback necessary.
- 8-B-5 In the case of lots for commercial, industrial, or non-residential use, the lot area, width, depth, shape, and orientation, and the minimum building setback lines, shall be appropriate for the location of the subdivision and for the type of development and use contemplated, shall be in accordance with the requirements of any existing Zoning or other applicable ordinance, and shall be adequate to provide for the service and parking facilities required by the type of use and development contemplated.
- 8-B-6 Double frontage or reversed frontage lots should be avoided except where they are deemed necessary by the Planning Commission to provide for the separation of residential development from traffic arteries or to overcome specific disadvantages of topography and orientation. A planting screen easement of at least ten feet shall be provided along the portion of such lots abutting such a traffic artery or other use where screening is required. There shall be no right of access across a planting screen easement, provided that the plans for such planting screens or fences shall be submitted for approval with the Record Plat.
- 8-B-7 All remnants or out lots, below the minimum size permitted, remaining after subdividing a tract, must be added to adjacent lots or common open space rather than remain as unbuildable or peculiarly shaped parcels not in keeping with the intent of this Ordinance.

8-C STREETS

- 8-C-1 The arrangement, character, extent, width, grade, and location of all streets and roads shall conform to the Clarke County Comprehensive Plan and shall be designed and constructed in accordance with Virginia Department of Transportation specifications. The Planning Commission shall have the right of review and approval, or disapproval, or the arrangement, character, extent and location of proposed streets within a subdivision.
- 8-C-2 (8/22/00) When a major subdivision abuts one side of any public street that is already in the state highway system, the subdivider shall be required to dedicate one-half of the right-of-way necessary to make said street conform to Virginia Department of Transportation or County criteria. In addition, the subdivider may be required to dedicate the full right-of-way necessary to make horizontal and vertical adjustments to said street.

- 8-C-3 Local residential streets shall be designed so as not to offer direct routes to through traffic.
- 8-C-4 Streets shall connect with existing streets and shall provide access to possible adjoining subdivisions as required by the Commission.
- 8-C-5 Names of new streets shall not duplicate or be confused with names of existing streets unless the new street is a continuation of, or in alignment with, an existing or platted street, in which case the name shall be the same. Street names shall be subject to approval of the Planning Commission.
- 8-C-6
(8/17/10) Streets shall be so designed as to provide adequate drainage and drainage facilities and to have geometric design in compliance with the requirements of the Virginia Department of Transportation. Curb and gutter (CG-6 or approved equivalent) shall be required on all new public streets in the Highway Commercial (CH) Zoning District. Upon recommendation from the Virginia Department of Transportation, the Administrative Body may waive the requirement for curb and gutter when in keeping with existing conditions on adjacent sites, and when safe travel and adequate stormwater management can be assured without curb and gutter. In the AOC, FOC, Rural Residential (RR), and Neighborhood Commercial (CN) Zoning Districts curb and guttering shall be not be required unless site conditions warrant.
- 8-C-7 Reserve strips controlling access to streets shall be prohibited except in cases of limited access roads.
- 8-C-8 Whenever a proposed subdivision contains or is adjacent to a major thoroughfare, arterial highway, limited access highway or primary highway, the Commission may require provisions to be made for service drives approximately parallel to such right-of-way, reverse frontage with screen planting contained in a non-access reservation along the rear property line, deep lots, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic. Except where impractical by reason of topography hardship, the area between the drive and the major thoroughfare or artery shall be sufficient to provide area for scenic planting and screening. The dimension of the area between the service drive and major thoroughfare or arterial shall be determined after due consideration of traffic safety requirements.
- 8-C-9 Cul-de-sacs shall be permitted only with the concurrence of the Planning Commission and the Virginia Department of Transportation, and shall be designed and constructed in accordance with the specifications and requirements of said Department.
- 8-C-10 Street jogs with centerline offsets of less than 225 feet shall be avoided.
- 8-C-11
(4/17/07) Street right-of-way width and street sections shall be in accordance with the requirements and specifications of the VDOT, and dedicated as a public road except as specified in section 8-J of this ordinance. Any and all such streets constructed in accord with section 8-J, which by definition will not be constructed to meet the standards necessary for inclusion in the system of state highways, will be privately maintained and will not be eligible for acceptance into the system of the state highways unless improved to current VDOT standards with funds other than those appropriated by the Virginia General Assembly and allocated by the Commonwealth Transportation Board.

- 8-C-12 Vehicular access to other streets or portions of streets from off-street parking and service areas shall be so combined, limited, located, designed, and controlled as to channel traffic from and to such areas conveniently, safely, and in a manner which minimizes marginal traffic friction and promotes free traffic flow on streets without excessive interruption.
- 8-C-13 Streets shall be laid out in such a manner as to intersect as nearly as possible at right angles and no street shall intersect any other street at less than 80 degrees.
- 8-C-14 In order to serve the public convenience and good, the Planning Commission and/or the Board of Supervisors, upon a recommendation of the Commission, and with concurrence of the Resident Engineer, may require standards, specifications and requirements for streets and related provisions for drainage which exceed such minimum standards, specifications and requirements of the Virginia Department of Transportation.
- 8-D PEDESTRIAN CIRCULATION
Subdivisions shall be designed in such a manner as to provide for the safe and convenient movement of pedestrians throughout the subdivision. All plans for pedestrian circulation shall be included in any plans and profiles as required in Article 7 of this Ordinance.
- 8-E COMMON OPEN SPACE
Where the size of a subdivision warrants, the subdivider shall provide such reasonable amount of suitable lands for parks, playgrounds, tot lots, ball fields, hiking trails, picnic areas, natural areas, bike paths, and the like, as the Planning Commission deems necessary to protect the safety, general welfare and shall be permanently reserved and maintained for use by the homeowners of the subdivision by a means acceptable to the Commission.
- 8-F PUBLIC FACILITIES
Where a proposed park, playground, school, public safety facility or other public use shown on the Clarke County Comprehensive Plan is located in whole or part in a subdivision, the Planning Commission may require the dedication or reservation of sites meeting the requirements for schools, parks, public safety facilities and other neighborhood purposes. Public sites shall be made available by a means acceptable and approved by the Commission.
- 8-G UTILITY EASEMENTS
- 8-G-1 Utilities shall be installed or easements for such utilities shall be provided and delineated on the Record Plat in the location and to the width designated by the Commission after receiving recommendations from the agencies responsible for the installation of same. In no case shall an easement be less than 10 feet in total width.
- 8-G-2 Utility and cable television transmission lines shall be placed underground.
(6/21/05)
- 8-G-3 Where determined appropriate by the Planning Commission, utility easements shall be provided
(6/21/05) on each side of all rear lot lines, and along side lot lines where necessary for utility installation and maintenance.
- 8-G-4 Public utility installations should be so located as to permit multiple installations within the easements.

- 8-G-5 Where it is proposed to place public utilities within the rights-of-way shown for public streets on a Record Plat, such utility installations shall be coordinated with the street construction plans and profiles as approved by the Resident Engineer of the Virginia Department of Transportation, and such installation shall be performed in accordance with all requirements of said Department.
- 8-H **UNSAFE LAND**
As a safety measure for the protection of the health and welfare of the people of Clarke County, the Planning Commission shall reserve the right to disapprove any subdivision that is subject to periodic flooding, is topographically unsuitable, contains extremely poor drainage facilities, unstable soil conditions, man-made conditions such as, but not confined to, unstable fills or slopes, or has other physical impairment to safe development.
- 8-I **DRAINAGE**
8-I-1 Subdivisions shall be protected from flood hazard and inundation by storm water, springs, and other surface waters. The design and construction of drainage facilities shall be such that all water courses traversing the subdivision and water emanating from outside and/or within the subdivision will be carried through and off the subdivision without creating an adverse drainage condition to roadway, residential sites, or residences to be installed within the tract, and without any injury to roadways, residential sites, residences, structures, farmland, or open space abutting or in the vicinity of the tract. Stormwater Management shall be designed as required by State stormwater management regulations.
- 8-J **PRIVATE ACCESS EASEMENTS**
(11/19/91) (6/21/05) (7/17/07)
8-J-1 **General Regulations**
- 8-J-1-a Lots in a proposed subdivision may be served by a Private Access Easement if in compliance with Zoning Ordinance Section 3-C-4. All Private Access Easements shall comply with Section 8-J-2 of this Ordinance.
- 8-J-1-b A proposed subdivision, which includes a Private Access Easement shall comply with all provisions of this Ordinance.
- 8-J-1-c Construction of any Private Access Easement shall comply with all applicable provisions of the Clarke County Soil Erosion and Sedimentation Control Ordinance.
- 8-J-1-d No Private Access Easement approved pursuant to the provisions of this Ordinance shall provide thoroughfare to subdivisions of adjoining property, unless such adjoining property is a part of the original tract as it existed on the date of approval of such easement.
- 8-J-1-e Before a building permit is issued for a residence, the grading and base shall be completed for that portion of a travel way accessing such a residence. Before a certificate of occupancy is issued for a residence, all construction shall be completed for that portion of a travel way accessing such a residence.

- 8-J-1-f (6/21/05) As stated in Zoning Ordinance Section 3-A-2-I, all private driveways longer than 150 feet shall comply with all Private Access Easement travel way standards in section 8-J-2-c below.
- 8-J-1-g The following note shall be added to any subdivision plat showing parcels accessed by a Private Access Easement:
The private access easements in this subdivision do not meet the standards necessary for inclusion in the system of state highways and will not be maintained by the VDOT or Clarke County and are not eligible for rural addition funds or any other funds appropriated by the Virginia General Assembly and allocated by the Commonwealth Transportation Board.
- 8-J-2 Design Standards
- 8-J-2-a (6/17/03) (6/21/05) All Private Access Easements shall have a minimum width of 30-foot right-of-way, and any additional right of way necessary to include the travel surface and the drainage facilities necessary to carry the 2-year storm event. The maximum right of way width shall be 40 feet with 50 feet allowed for short distances when the Planning Commission determines there are unique site-specific circumstances.
- 8-J-2-b No telescoping, stacking, paralleling, or similar design configuration of Private Access Easements shall be permitted.
- 8-J-2-c (6/17/03) (6/21/05) (7/17/07) (01/17/17) All Private Access Easements serving three or more parcels shall have travel ways with:
1. a minimum design speed of 15 miles per hour;
 2. an all weather surface (graveled or asphalt)
 - a. minimum gravel road construction (for all travel ways, pull-offs, and turn-arounds) shall consist of a single compacted aggregate base material course of 7 inches;
 - b. minimum asphalt road construction (for all travel ways, pull-offs, and turn-arounds) shall:
 - (1) have insitu CBR tests at 300 foot intervals along the road centerline to verify the CBR value is at least 4. If the CBR test results in a value less than 4, the subgrade must be improved with "soil cement" or other means as recommended by the onsite geotechnical engineer;
 - (2) consist of the following:

a. asphalt surface course:	1.5 inches
b. asphalt base course:	3 inches
c. aggregate base (21B) course:	4 inches
 3. a minimum radius of 100 feet for gravel roads and 70 feet for asphalt roads. The radius shall be measured along the centerline of the travel way. The maximum super-elevation of travel ways in such radii shall be 4%;
 4. the following maximum grades, measured along the centerline of the travel way:
 - a. 4% within 25 feet of a public right of way,
 - b. a vertical curve providing a transition between the above grades in the area between 25 feet and up to 125 feet from a public right of way;
 - c. 8% for any portion of the travel way more than 125 feet from a public right of way, however up to 12% may be allowed for short distances if specifically approved by the Planning Commission based on site-specific circumstances;

5. not more than 100 linear feet, measured on the centerline, that crosses pre-development slopes of 25% or greater;
6. a minimum stopping sight distance of 65 feet (distance is based on a 3.5 foot height of eye and a 0.2 foot height of object);
7. a minimum intersection sight distance of 60 feet (distance is based on a 3.5 foot height of eye and a 4.25 foot height of object);
8. a travel way crown with a minimum of 2%;
9. a minimum travel way surface width (graveled or paved) of 14 feet and a maximum travel way surface width of 18 feet;
10. no obstruction (such as posts, pillars, walls, or fences) erected within 10 feet of the centerline a travel way or within a public right of way.
11. a pull-off area(s) not further than 900 feet from a public right of way or other pull-off area to accommodate emergency vehicles;
12. a turn around area (either circular or 'T' shaped) at the end of a travel way;
13. drainage facilities to allow a 14-foot wide travel way on the roadway during the 2-year storm event.
14. a minimum travel way side slope of 3:1 (horizontal: vertical) to the flow line of the ditch or the limit of the easement, however a slope of 2:1 may be approved by the Planning Commission if there are unique site-specific circumstances;
15. stormwater management features, including storm drain culverts, shall meet VDOT standards and State stormwater management regulations, if applicable; and
16. a minimum 100 foot setback for travel ways and drainage facilities from sinkholes and perennial streams (except for approved stream crossings).